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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/686,768	10/11/2000	Jeff Schulz	FORE-77	7087

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EXAMINER

PHAN, MAN U

ART UNIT PAPER NUMBER

2665

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/686,768

Applicant(s)

SCHULZ, JEFF

Examiner

Man Phan

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-14 is/are rejected.
- 7) ☒ Claim(s) 5-10 and 15-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment and Argument

1. This communication is in response to applicant's 05/19/2004 Amendment in the application of Schulz for the "Dual optimality for different data rate backplane transfers" filed 10/11/2000. The amendment, response has been entered and made of record. Claims 1-19 are pending in the present application.

In view of applicant's proposed corrections with respect to the disclosure, the examiner has withdrawn the objections of record.

2. Applicant's argument to the rejected claims are insufficient to distinguish the claimed invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C. 103 as discussed below. Applicant's argument with respect to the pending claims have been fully considered, but they are not persuasive for at least the following reasons.

3. On page 4, last paragraph, applicant asserts that there is no motivation to combine the references i.e., Bianchini et al., and Dempsey, as proposed in the Office Action. In response, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Bianchini, Jr. et al. (US#6,463,063) applied herein for the teaching of a switch for

Art Unit: 2665

switching both variable length packets and fixed length ATM cells using a segmentation function to convert a packet to cells and reassembly function to convert the packet to cells. Biachini teaches in Fig. 1 a block diagram illustrated packet striping in the switch. The switch includes an input port mechanism having a plurality of input ports each able to receive cells and packets from the network. The switch includes an output port mechanism having a plurality of output ports each able to send cells and packets to the network. The switch includes a switching fabric connected to the input port mechanism and the output port mechanism for switching either packets or cells from any input port to any output port. The switch includes a mechanism for converting packets to cells when the input port is a packet port and the output port is a cell port and cells to packets when the input port is a cell port and the output port is a packet port, respectively, or not converting cells or packets when the input port and the output port are both cell ports or both packet ports, respectively. The converting mechanism is connected to the output port mechanism and the switching fabric (Col. 1; lines 39 plus and Col. 8, lines 13 plus). In the same field of endeavor, Dempsey (US#6,526,021) teaches the flow control structure for transporting synchronous optical network data more rapidly using an N terminal high speed transport system coupled between 1:N low speed transport systems (See Fig. 3 and the Abstract).

4. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Therefore, the Examiner maintains that the references cited and applied in the last office actions are maintained for this office action.

Claim Rejections - 35 USC ' 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bianchini, Jr. et al. (US#6,463,063) in view of Dempsey (US#6,526,021).

With respect to claims 1-4, both Bianchini, Jr. et al. (US#6,463,063) and Dempsey (US#6,526,021) disclose a novel method and system for the transfer of data of connections at various rate, especially in exchanging traffic between OC48 and OC192 ports, according to the essential features of the claims. Bianchini, Jr. provides in Fig. 7 a schematic diagram illustrated a switching system for transferring data from an interface having a first rate (input port) over a connection mechanism having a second rate (output port). Bianchini Jr. discloses a switch 10 for

Art Unit: 2665

switching fixed size ATM cells and variable length packets of a network 12. The switch 10 comprises an input port mechanism 14 having a plurality of input ports 16 each able to receive cells and packets from the network 12. The switch 10 comprises an output port mechanism 18 having a plurality of output ports 20 each able to send cells and packets to the network 12. The switch 10 comprises a switching fabric 22 connected to the input port mechanism 14 and the output port mechanism 18 for switching either packets or cells from any input port 16 to any output port 20. The switch 10 comprises a mechanism for converting packets to cells when the input port 16 is a packet port and the output port 20 is a cell port and cells to packets when the input port 16 is a cell port and the output port 20 is a packet port, respectively, or not converting cells or packets when the input port 16 and the output port 20 are both cell ports or both packet ports, respectively. The converting occurs after the cell or packet has traversed this fabric. Preferably, the converting mechanism 24 is connected to the output port mechanism 18 and the switching fabric 22 (Col. 1, lines 40 plus). Bianchini further teaches in Fig. 2 an OC48 Port Card, in which the OC192 port card supports a single 10G stream to the fabric and between a 10G and 20G egress stream. This board also uses 4 stripers and 4 unstriper, but the 4 chips operate in parallel on a wider data bus. The data sent to each fabric is identical for both OC48 and OC192 ports so data can flow between the port types without needing special conversion functions (dividing the higher data rate connections into data pipes having the same rate as the data pipes formed from the lower rate connections) (See also Fig. 8; Col. 8, lines 53 plus).

Bianchini, Jr. differs from the claims in that the claims require the connection mechanism to send or receive data from the fabric (switching) by separating data received at the second rate into streams of data that together equal the data received at the second port card (*same rate as the*

Art Unit: 2665

lower rate connections). In the same field of endeavor, Dempsey (US#6,526,021) provides a system and method for transporting synchronous optical network data more rapidly using an N terminal high speed transport system coupled between 1:N low speed transport systems. Dempsey teaches in Fig. 3 illustrated the clear channel transport system that increases the transport capacity per channel by multiplexing each lower rate working channel of a low rate transport system into separate higher rate channels of a clear channel high rate SONET transport system. With reference to Fig. 3, terminal 20 can transmit OC48 SONET transport signal W.sub.11 across working channel 22 to high speed terminal 110. Likewise, terminal 30 sends transport signal W.sub.21 across channel 32, terminal 40 sends transport signal W.sub.31, across channel 42, and terminal 50 sends transport signal W.sub.41 across channel 52 to high speed terminal 110. High speed terminal 110 will receive each of the incoming transport signals W.sub.11, W.sub.21, W.sub.31, and W.sub.41 and will electrically package these signals as one OC192 signal W.sub.1 and transport the entire signal W, to high speed terminal 150 across working channel 115. This electronic packaging can be done through electrical multiplexing or, alternatively, through optical multiplexing (Col. 4, lines 52 plus).

Regarding claims 11-14, they are method claims corresponding to the apparatus claims 1-4 above. Therefore, claims 11-14 are analyzed and rejected as previously discussed with respect to claims 1-4.

One skilled in the art would have recognized the need for effectively and efficiently processing telecommunications signaling in SONET frame data between different line rates, and would have applied Dempsey's teaching of the SONET format signal transport system into Bianchini Jr.'s novel use of the a switch for switching both variable length packets and fixed

Art Unit: 2665

length ATM cells of a network. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Dempsey's clear channel 1:N SONET transport system and method into Bianchini's receiver makes right with the motivation being to provide a method and system for performing transfer connections of SONET framed data between different line rates.

Allowable Subject Matter

7. Claims 5-10 and 15-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest wherein the second port card maps the data received at the second rate onto the bus in 4 bit interleaved fashion, and N equals 4, as specifically recited in claims 5 and 15.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chong et al. (US# 5,983,278) discloses a low loss, fair bandwidth allocation flow control in a packet switch.

Art Unit: 2665

Phelps (US# 6,392,992) discloses a signal degrade oscillation control mechanism.

Spagnolo et al. (US# 6,526,024) discloses a synchronization of a synchronous back-pressure from one destination to multiple sources.

Quirke et al. (US# 6,654,370) discloses a backplane synchronization in a distributed system with clock drift and transport delay.

Witkowski et al. (US# 6,201,789) discloses a network switch with dynamic backpressure per port.

Simpson et al. (US#5,987,008) discloses an ATM switch.

10. **THIS ACTION THIS ACTION IS MADE FINAL.** See MPEP ' 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2665

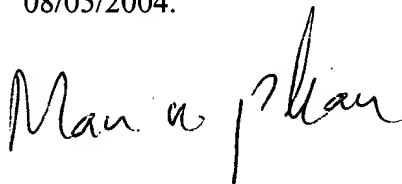
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (703)305-1029. The examiner can normally be reached on Mon - Fri from 6:30 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Mphan

08/05/2004.



MAN PHAN
PATENT EXAMINER